Non-Commercial Joint-Stock Company
«Kazakh National Agrarian Research University»

AGREED
Chairman of the Management Board
«Kazakh Scientific Research Institute
of Animal Husbandry and Feed
Production» LLP
_____ A.Torekhanov
«05» 04 2023

APPROVED
Chairman of the Board – Rector
_____ A.Kurishbaev
«__» _____ 2023

EDUCATIONAL PROGRAM

7M08203- «Technology production of livestock products»

Awarded degree: Master of Agriculture under the educational programme
7M08203-«Technology production of livestock products»

(in the field of study 1,5 year)

Almaty, 2023

Approved at the meeting of the Department «Zooengineering»
Protocol №08, «17» 03 2023

Head of the department _____ Sh. Adylkanova

Considered at meetings Academic Committee of the Faculty of «Zooengineering and food production technology»
Protocol № 04 «24» 03 2023

Chairman of the AC of the faculty _____ Ye.Baimazhi

Reviewed by the Educational Methodological Council of the University and recommended to the Academic Council
Protocol № 03 «28» 03 2023

Chairman of the EMC of the University _____ A. Kaiyrbaeva

The educational program was approved at the meeting of the Academic Council of KazNARU
Protocol №11, «05» 04 2023

Developers:

Dean of the Faculty B. Yerenova

Head of Department Sh. Adylkanova

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Workaday:

Chairman of the Management Board
«Kazakh Scientific Research Institute of Animal Husbandry and Feed Production» LLP A. Torekhanov

Agreed:

Head of the Educational Programs Design Office Zh. Kussainova

Application

It is intended for the training of masters in the modular educational program «7M08203-Technology production of livestock products» in NAO " Kazakh National Agrarian Research University»

Regulatory documents:

«On Education» The Law of the Republic of Kazakhstan dated 27 July, 2007 No. 319-III;

Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 №2;

Classifier of training programs for personnel with higher and post-graduate education. Order of the Minister of Education and Science of the Republic of Kazakhstan of October 13, 2018 No. 569;

Standard Rules for the activities of educational organizations implementing educational programs of higher and (or) postgraduate education. Order of the Minister of Education and Science of the Republic of Kazakhstan of October 30, 2018 No. 595;

Rules of the organization of the educational process on credit technology of training. Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 12, 2018 No. 563;

Algorithm of inclusion and exclusion of educational programs in the Register of educational programs of higher and postgraduate education. Order of the Minister of Education and Science of the Republic of Kazakhstan No. 665 dated December 4, 2018;

Order No. 106 of the Minister of Science and Higher Education of the Republic of Kazakhstan dated October 12, 2022. Rules for keeping the register of educational programs, implemented by the organizations of higher and (or) postgraduate education, as well as the grounds for inclusion in the register of educational programs and exclusion from it.

The website of NCE Atameken http://atameken.kz/

1. Passport of modular educational program

Education area code and classification	**7M08 Agriculture and bioresources**
Code and classification of training areas	**7M082 – Farming**
Code and name of the educational program	**7M08203- «Technology production of livestock products»**
Type of educational program	Active
The purpose of the educational program	Training of highly qualified and competitive specialists in the field of animal husbandry, in demand in production organizations and farms of various forms of ownership.
A-level ISCED	7
The level on the NQF	7
Level by ORC	7
Number of the application to the license for the direction of training	KZ42LAA00006720 No. 10 from July 05, 2019
Accreditation The name of the accreditation body The period of validity of accreditation	Certificate HAAP 05.12.2016 -04.12.2021 y.
Degree awarded	Master of Agriculture under the educational programme 7M08203-«Technology production of livestock products»
Learning outcome	Table 2
List of qualifications and positions	The graduate can carry out professional activities in the following areas: - head of the artificial insemination center; - zootechnician; - specialist in animal husbandry; - specialist in keeping and feeding of farm animals; - Teacher in animal husbandry, breeding of agricultural animals, feeding of agricultural animals in secondary special and higher educational institutions - Researcher in research organizations
Field of professional activity	Educational organizations, including universities, research organizations, all branches of animal husbandry, organizational and management activities, experimental research, research, educational activities on the technology of production of animal products.
Sphere and object of professional activity	- research institutes and educational organizations of any profile; - state institutions of the Ministry of agriculture, animal husbandry forms of ownership, poultry farms, racetracks, breeding farms and breeding plants, zoos, scientific laboratories, reserves, livestock companies, and vocational schools
Functions of professional activity	Educational program 7M08203- Technology production of animal products includes 1.5 (one and a half years) educational trajectories: Undergraduates study milk production technology, beef production technology, horse breeding technology, horse breeding training and racetrack testing. Undergraduates study the technology of breeding chickens of farm animals, the

	technology of production of poultry products, sheep technology, sheep wool production technology. Master's degree in General technology for all educational trajectories, foreign language (professional), management, psychology, project management, business decision modeling, innovative animal production technology, animal feeding technology and feeding, animal behavior, theoretical foundations of breeding, animal breeding studies subjects.
Types of professional activity	**Masters courses 7M082 – Farming** can perform the following types of professional activities:**1. Project-technological:** - organizational, technological services, management activities, management and marketing at production facilities in various sectors of animal husbandry and biotechnology; conducting research on the design, implementation of organizational activities in various fields of animal husbandry. **2. Organizational and management:** higher and postgraduate educational institutions, research institutes, various agricultural organizations (firms, enterprises, farms), social and entrepreneurial complexes (SEC), local and national agricultural management bodies, livestock and poultry farms; Agriculture; management institutes; enterprises for processing animal feed; Zoo; racetrack; industry laboratories, departments, departments; departments in the structures of the local managements **3. Research:** - carrying out research work to increase the productivity of animals; - research and development of measures for the conservation of local animal breeds; - organization of works and seasonal activities in livestock facilities **4. Scientific-pedagogical:** - study of modern methods of teaching disciplines technology of production of animal products; - development of scientifically-based methods of professional development of employees at all levels; - the use of innovative teaching technologies in the process of pedagogical activity.
To be competent	- on the scientific organization of work, computer methods of collection, storage and processing of information used in the field of his professional activity; - in legal matters to resolve disputes in the collective and other economic entities.

2. Learning outcomes on EP

Codes	Learning outcome
PO1	Application at the professional level of knowledge and skills of innovative technologies for the production of livestock products, detailed nutrition of farm animals and birds
PO2	Demonstrate knowledge and understanding of the methodology of scientific research in animal husbandry, know the methods of project management in entrepreneurship, conflictology and modeling of business decisions
PO3	Apply knowledge to solve practical problems in the field of breeding of agricultural animals and management of genetic resources in animal husbandry
PO4	Formulate arguments of the theoretical foundations of breeding and solve problems in the field of genetic resources management in animal husbandry.
PO5	Understand the principles and know the methods of technological processes for the production and processing of lamb, wool and poultry products.
PO6	Knowledge and understanding of the studied facts, phenomena, theories and complex dependencies of technological processes of production and processing of livestock products.

3. Content of the educational program «Technology production of livestock products»

№PP	UC/ OC	Code of discipline	The name of the discipline forming the competence	Total in academic credits	Volume in hours							Distribution of credits by courses and semesters				Department	Form of control
					Total academic hours	Classroom				Extracurricular		1 course		2 course			
						Lectures	Practical class	Laboratory research	Other (practice)	**IWMT**	**IWM**	1	2	3	4		
1	**TO**		**Theoretical training**	**60**	**1800**	**168**	**392**	**0**	**0**	**280**	**840**						
CC: UC/ OC			**Core subjects cycle: University component / Optional Component**	**15**	**450**	**45**	**105**	**0**	**0**	**75**	**225**						
1.1	**CC**		**Core subjects cycle**														
1)	**UC**		**University component**	**6**	**180**	**18**	**42**	**0**	**0**	**30**	**90**						
including:																	
1.1.1	**UC**	lYa 60201	Foreign language (for specific purposes)	**2**	60	6	14	0	0	10	30	2				14	exam
1.1.2	**UC**	M602 02	Management	**2**	60	6	14	0	0	10	30	2				2	exam
1.1.3	**UC**	MP 70301	Managerial Psychology	**2**	60	6	14	0	0	10	30		2			6	exam
2)	**OC**		**Optional component**	**9**	**270**	**27**	**63**	**0**	**0**	**45**	**135**						

1.1.4	OC	UTPP Zh 60203	Innovative technologies of production of animal products	5	150	15	35	0	0	25	75	5				27	exam
1.1.5	OC	DNF AB 60204	Detailed nutrition of farm animals and birds	4	120	12	28	0	0	20	60	4				27	exam
MS: UC/OC		**Major subjects cycle (MS): University component / Optional Component**		**45**	**1230**	**123**	**287**	**0**	**0**	**205**	**615**						
1.2	**MS**	**Major subjects cycle (MS)**															
1)	**UC**	**University component**		**20**	**600**	**60**	**140**	**0**	**0**	**100**	**300**						
1.2.1	UC	MNIT PPZh 60205	Methodology of scientific research in the technology of production of livestock products	5	150	15	35	0	0	25	75	5				27	exam
1.2.2	UC	PMFE 70302	Project management in the field of entrepreneurship	7	210	21	49	0	0	35	105		7			2	exam
1.2.3	UC	Con 70303	Conflictology	4	120	12	28	0	0	20	60		4			6	exam
1.2.4	UC	MBS 70304	Modeling business solutions	4	120	12	28	0	0	20	60		4			2	exam
2)	**OC**	**Optional component**		**21**	**630**	**63**	**147**	**0**	**0**	**105**	**315**						
1.2.5	OC	UGR Zh 60206	Genetic resources management in animal husbandry	5	150	15	35	0	0	25	75	5				27	exam
1.2.6	OC	TBS 60207	Theoretical basis of selection	5	150	15	35	0	0	25	75	5				27	exam
		Educational trajectory №1 Technology of production of cattle and horse breeding															
1.2.7	OC	TBM P 60307	Technology of beef and milk production	6	180	18	42	0	0	30	90		6			27	exam
1.2.8	OC	TPHB 60308	Technology of production of horse breeding	5	150	15	35	0	0	25	75		5			27	exam
		Educational trajectory №2 Technology of production of sheep breeding and poultry farming															

1.2.9	**OC**	PTPShMW60309	Production technology for processing sheep meat and wool	**6**	180	18	42	0	0	30	90		6			27	exam
1.2.10	**OC**	FIPPP60310	Fundamentals of industrial production of poultry products	**5**	150	15	35	0	0	25	75		5			27	exam
3)			**Workplacement training**	**4**	**120**				**120**				2	**2**		27	exam
2		EIRM603001	Experimental research work by a Master's Degree student including an internship and a Master's Thesis.	**18**	**540**				**540**			2		16			report
3		FA603002	Final assessment (FA)	**12**	360				360					12			
1)		Preparation and defence of Master's Thesis (PDMT)															PDMT
			TOTAL:	**90**	**2700**	**162**	**398**	**0**	**1020**	**280**	**840**	**30**	**30**	**30**			

Competence of scientific and pedagogical magistracy in
Direction of preparation 7M08203- "**Technology production of livestock products»**

Description of competence, rus.	Type competence	№ competence
Knowledge of history and philosophy of science development	TC	1
Ability to conduct reasoned conversation on a wide range of scientific issues	TC	2
Ability to demonstrate broad-mindedness in matters of philosophy of science, psychology and pedagogy	TC	3
Ability to conduct a professional conversation in an international environment in English	TC	4
Be competent in matters of innovative technology of production of animal products;	TC	5
Be competent: in questions of application of various methodological approaches for the zootechnical and chemical analysis of forages, receptions and technology of production of forages and fodder means; abilities independently to organize and carry out scientific researches with use of modern methods of technology of production of forages, the analysis of soil and vegetative samples.	TC	6
The master's student must be competent in the performance of production, organizational and managerial and experimental research activities at enterprises and organizations of the agro-industrial complex.	TC	7
in matters of genetics, breeding and breeding and reproduction of farm animals	TC	8
be competent to generalize and critically evaluate the results obtained by domestic and foreign researchers, to identify promising directions, experiments of biometric processing of experimental data, writing of experimental methodology, registration of patent rights and rights of authors of inventions of other intellectual property objects.	TC	9
In matters of cow's milk production technology	TC	10
In matters of beef production technology	TC	11
- test horses at montirovka riding and trotting horse breeds in the definition rating of racehorses and trotting horses, determination of prize-winning places in equestrian sport; when montirovka riding and trotting horses.	TC	12
in conducting research and the use of modern methods in meat and dairy horse breeding	TC	13
conduct zootechnical and breeding accounting and reporting using genetic-mathematical and statistical analysis using computers and personal computers;	TC	14
to conduct breeding work with birds of different species in a	TC	15

specific technology; to manage the work of shops, teams, laboratories; to conduct zootechnical and breeding accounting and reporting using genetic, mathematical and statistical analysis using computers and personal computers; to make decisions independently		
to be competent: skills of cultivation, intensive cultivation and the organization of the correct feeding and fattening, technologies of complex scientific researches of slaughter, pre-slaughter and slaughter weight, slaughter output, structure and cuts, weight and size of carcass, difference of weight of steam and in the cooled carcasses, chemical composition of meat of sheep of various directions of productivity for production of mutton	TC	16
in questions of methodology of search and application of classifications of standards of wool, wool of the processing industry, skills of identification, methods of an assessment of quality and safety, a semi-finished product for diagnostics of defects, skills of the organization of acceptance of wool raw materials on quality and quantity, rules of technology of primary processing, sorting and washing, its storage, transportation and marking of wool.	TC	17
Knowledge of the basics of scientific research, management of scientific projects, business solutions	TC	18
Ability to control the psychological climate in the production team	TC	19
The ability to select personnel for professional suitability	TC	20
Ability to form in collective psychology of safe thinking	TC	21
Ability to work with scientific and special literature in search of solutions to scientific problems.	TC	22
Understanding the special social, scientific and technical significance of their profession	TC	23
The desire to continue scientific education in the chosen specialty and to develop as a scientist in demand by the labor market	TC	24
Ability to professional growth and professional mobility	TC	25

4. Map of competence modules

Core competencies	Learning outcome
Module 1.	
Scientific communication and management Ability to apply modern technologies - communication technologies in everyday life and professional field; the use of common and General professional foreign language's	Evaluate problems and have an understanding of the methodology of agricultural science in the field of animal husbandry.
Module2. Productive animal husbandry Innovative technologies of livestock production and food safety. Technology of cultivation of young growth of agricultural animals and birds, preparation of certain types of feed and fodder.	***Know:*** - the main directions of the livestock industry in Kazakhstan and abroad, the best experience of domestic and foreign rational innovative technologies of production of livestock products, standards of breeds of farm animals in Kazakhstan and abroad, depending on the direction of productivity, issues of formation, accounting and sales of products. ***Can:*** - perform independent calculations of technological parameters in the organization of agricultural enterprises, plan on the basis of innovative technologies for the production of environmentally friendly, resource-saving products of livestock and poultry; - to be guided in situations arising at not foreseen technological processes providing production of high-quality and environmentally friendly production;
Module 3. Methods of improvement of farm animals The current state of genetic resources of the main species of domestic animals in the world and in Kazakhstan. The importance of genetic resources in society. Use of world genetic resources in further breed formation and improvement of breeding and productive qualities of animals. Genetic and population bases of selection; Ways of preservation, improvement and improvement of gene pool of existing and creation of new breeds of animals; use of resources of gene pool in the conditions of intensification of animal husbandry.	***Know:*** problems of conservation of species and breeds of farm animals; negative consequences of depletion of genetic resources of farm animals; methods of improvement of productive and breeding qualities of agricultural animals. - biological and genetic bases of selection; problems of adaptation and stress resistance of agricultural animals; methods of determination of stress resistance; influence of stress on productivity of agricultural animals. - ***Can:*** - to study the structure of the gene pool of populations by qualitative characteristics using methods of genetic and statistical analysis; to analyze the variability of quantitative characteristics in the population in order to use them in breeding; to analyze the reliability of the origin of animals using biochemical systems;
Module 4. **Organization of the learning process in higher education**. Pedagogical science and its place in the system of human Sciences. Modern paradigm of higher education. Professional and	***Know:*** - actual problems of modern higher education and pedagogical science; - social and psychological nature of pedagogical activity;

communicative competence of the teacher of the higher school. The theory of teaching in higher education. Content of higher education. Organization of the learning process on the basis of the credit system of higher education. Traditional and innovative methods and forms of training organization. New educational technologies in higher education.	- ways of conflict resolution, strong emotional feelings, origin, development and ways of conflict resolution; ***Can:*** -to create a creative and developing environment in the process of training and education; use the necessary psychological and methodological resources for the preparation and conduct of classes (lectures, seminars, CPMP and exams); -to solve the actions opposing conflicts, to resist negative actions, to understand the motives of the conflict; -to understand motives of the conflict, to apply the knowledge on pedagogical practice.
Module 5. Breeding The main directions of intensification of dairy and meat animal husbandry. Technological scheme. Equipment shops. The purpose of the workshops and the organization of production groups. Feeding and milking cows at the PCC milk production.Factors influencing the formation of meat productivity, methods of increasing meat productivity, quality and nutrition of meat. Evaluation of the quality of the offspring, testing on their own productivity, industrial crossing-a method of creating highly productive meat animals.	***Know:*** design methodology using methods and models of operations research; use of gene pool for qualitative transformation of dairy and dairy-meat breeds; ***Can:*** to use the basic laws of natural science disciplines in professional activity, to apply methods of zootechnical analysis and modeling, theoretical and experimental research in the system of cattle breeding; to apply methods of the zootechnical analysis and modeling, theoretical and experimental research in system of cattle breeding;
Module **6. Horse breeding** Показатели мясных качеств лошадей выращеваемых в РК и СНГ. Оптимальная структура табуна мясного напровления. Вывращивание молодняка лошадей мясного направления. Откорм и нагул лошадей. Молочная продуктивность лошадей Biological and physiological features of sports horses, assessment and selection on the exterior and Constitution of riding and trotting breeds, physiological basis of training, modern technology of Hippodrome training and testing of horses	***Know:*** - value of productive horse breeding, directions, modern requirements, production technology; high-value breeds of horses of productive direction and their biological features; -breeds of horses used for racing and trotting races, exterior and constitutional features, principles and methods of training of riding and trotting breeds, bases of preparation for races and races, work carried out on hippodromes, regularities of growth and development of young horses, technology of feeding and the contents, methods of an assessment and selection of horses for equestrian sport;. ***Can:*** to distinguish between riding and trotting breeds, to evaluate and select the exterior and Constitution, to conduct training and racetrack tests of riding and trotting horses, to prepare horses for competitions, to use the training equipment correctly, to fill in the cards and forms in breeding horse breeding.
Module **7. Poultry** State and prospects of development of industrial	***Know:*** intensive methods of keeping poultry with the use of energy and resource-saving techniques; industry

poultry in the world in the Republic of Kazakhstan. Biological features of young farm birds. Organization of breeding work with the bird. Exterior, interior and Constitution of young birds. Breeding work with young animals of different types of poultry. Methods of estimation of daily young growth. Features of cultivation of repair young growth for acquisition of breeding and parent herd. Broiler meat production technology	standards for all technological processes of growing young birds; modern methods and means of planning and organization of research and development, experiments and observations, generalization and processing of information, including the use of computer programs; theoretical foundations of breeding, genetics and reproduction of poultry; organization of breeding work with poultry at breeding ***Can:*** select a bird for exterior signs;assess the young egg and meat production;to determine the deviation from the norm in industrial conditions of poultry breeding density planting, feeding level and other technological parameters;to determine the capacity of the enterprise, its need for repair young growth
Module **8. Sheep breeding** Efficient use of intensive sheep meat and wool production technology in sheep farming. Development of technologies of the company in sheep breeding with intensive use of reproduction of a flock of sheep. Maximum use of reproduction methods. Production of low-cost, environmentally friendly, lamb and lamb, resource-saving technology of production of sheep products in a market economy. Intensive rearing of young sheep. Industrial technology of production of mutton.	***Know:*** maximum use of intensive technology of production of sheep meat in sheep breeding, with the improvement of quality and its improvement in this regard, the production of environmentally friendly products of lamb and lamb; technology of production of wool of sheep and definition of their quality, improvement, preparation and realization. ***Can:*** in a market economy to be able to manage farms of different ownership in this regard to be able to produce high-quality and profitable products sheep meat; to determine the quality indicators of productivity of sheep wool and correctly note their features, organization of exhibitions and auctions.

5. Summary table, reflecting the volume of loans disbursed in the context of the educational program:

Training course	Semester	Number of disciplines studied		Number of academic credits				Total in academic hours	Quantity	
		UC	OC	Theoretical training	Work placement internship	Experimental research work by a Master's Degree student including an internship and a Master's Thesis	Total		exam	Deeth. credit
I	1	3	4	28		2	30	600	7	
	2	4	4	28	2		30	900	8	
II	3				2	16	30	540		
	4									
Total		**7**	**8**	**48**	**2**	**18**	**90**	**2040**	**15**	

Competence of the profile master's degree in
Training are 7M08203 – «Technology production of livestock products»

Description of competence, rus.	Type competence	№ competence
Knowledge of history and philosophy of science development	ПК	1
Ability to conduct reasoned conversation on a wide range of scientific issues	ПК	2
Ability to demonstrate broad-mindedness in matters of philosophy of science, psychology and pedagogy	ПК	3
Ability to conduct a professional conversation in an international environment in English	ПК	4
Be competent in matters of innovative technology of production of animal products;	ПК	5
Be competent: in questions of application of various methodological approaches for the zootechnical and chemical analysis of forages, receptions and technology of production of forages and fodder means; abilities independently to organize and carry out scientific researches with use of modern methods of technology of production of forages, the analysis of soil and vegetative samples.	ПК	6
The master's student must be competent in the performance of production, organizational and managerial and experimental research activities at enterprises and organizations of the agro-industrial complex.	ПК	7
in matters of genetics, breeding and breeding and reproduction of farm animals;	ПК	8
be competent to generalize and critically evaluate the results obtained by domestic and foreign researchers, to identify promising areas, experiments of biometric processing of experimental data, writing of experimental methodology, registration of patent rights and rights of authors of inventions of other intellectual property objects.	ПК	9
In matters of cow's milk production technology	ПК	10
In matters of beef production technology	ПК	11
- test horses at the evaluation of the riding and trotting horse breeds, in the definition of rating racehorses and trotting horses, the determination of prizes in equestrian sport; when montirovka riding and trotting horses.	ПК	12
in conducting research and the use of modern methods in meat and dairy horse breeding	ПК	13
conduct zootechnical and breeding accounting and reporting using genetic-mathematical and statistical analysis using computers and personal computers;	ПК	14
to conduct breeding work with birds of different species in a specific technology; to manage the work of shops, teams, laboratories; to	ПК	15

conduct zootechnical and breeding accounting and reporting using genetic, mathematical and statistical analysis using computers and personal computers; to make decisions independently		
to be competent: skills of cultivation, intensive cultivation and the organization of the correct feeding and fattening, technologies of complex scientific researches of slaughter, pre-slaughter and slaughter weight, slaughter output, structure and cuts, weight and size of carcass, difference of weight of steam and in the cooled carcasses, chemical composition of meat of sheep of various directions of productivity for production of mutton	ПК	16
in matters of methodology search and use classifications standards wool sherstopererabatyvayuschee industry, skills identification, methods of assessing the quality and safety of semi-finished product for the diagnosis of defects, skills, the organisation of acceptance of woolen raw material quality and quantity, rules of the technology for primary processing, grading and cleaning, storage, transportation and labelling of wool.	ПК	17
Knowledge of the basics of scientific research, management of scientific projects, business solutions	ПК	18
Ability to control the psychological climate in the production team	ПК	19
The ability to select personnel for professional suitability	ПК	20
Ability to form in collective psychology of safe thinking	ПК	21
Ability to work with scientific and special literature in search of solutions to scientific problems.	ПК	22
Understanding the special social, scientific and technical significance of their profession	ПК	23
The desire to continue scientific education in the chosen specialty and to develop as a scientist in demand by the labor market	ПК	24
Ability to professional growth and professional mobility	ПК	25

Information about disciplines

№	Name of discipline	Brief description of the discipline	Number of credits	Sem ester	Emerging competencies (code)
1	**Theoretical training**		**60**		
	Cycle of basic disciplines University component / Optional Component				
1.1	**Core subjects cycle (CS)**		**15**		
1)	**University component (UC):**		**6**		
	including:				
1.1.1	Foreign language (for specific purposes)	The main purpose of the discipline is a systematic deepening of communicative competence in the framework of international standards of foreign language education on the basis of further development of skills and abilities of active English language proficiency in the professional activity of the future master of science. Development of undergraduate skills: - reading literature in English in the specialty for receiving and transmitting scientific information; - processing of extracted information in the form of translations, annotations, abstracts; - conducting conversations in English on topics related to the specialty and scientific work of the undergraduate.	2	1	*Competences:* - work with lexicographic sources in a foreign language (traditional and on-line).
1.1.2	Managerial Psychology	Examines the subject, essence, objectives and structure of management psychology, methods of psychological research and the main approaches to its study. Examines the psychology of the subject of management, the psychology of cognitive activity, perceptual, MNEMIC, thought processes in management. The course forms ideas about etiquette in the activities of a modern business person, communicative competence of the head, emotional and volitional States in management activities and the ability to manage.	2	2	**Competences:** - in the formation of students ' needs for knowledge and skills of a managerial nature and professionally important qualities of future specialists; - in the formation of students ' ideas about the basics of management; - в развитии самостоятельности в поиске информации; - in the application of adequate methods of personality research;

1.1.3	Management	The course provides for the study and assimilation by undergraduates of the basic concepts and key issues of modern management, mastering the basic practical skills in this area, the formation of professional thinking that contributes to the understanding of the essence of management processes and the acquisition of competencies necessary for the formation of an effective manager			Competencies: - to introduce students to the most important management issues; - in the formation of modern managerial thinking among students; - introduction to classical and modern management theories; - develop practical skills for analyzing and solving management problems; - to study the methods of organization management and practical ways of their application.
2)	**Optional component (OC)**		**9***		
	Educational trajectory №1 «Technology of production of cattle breeding and horse breeding»/ in both English №1				
1.1.4	Innovative technologies of production of animal products	The concept and economic essence of innovation and innovation activity. Financing of agriculture in terms of innovative development of the economy of Kazakhstan. Priority directions of innovation strategy of agroindustrial complex. Innovative technologies of livestock production and food safety. Technology of cultivation of young growth of agricultural animals and birds, preparation of certain types of feed and feed mixtures	**5**	1	**Competences:** *Be competent* in matters of innovative technology of production of animal products;
1.1.5	Detailed nutrition of farm animals and birds	The course examines the need for full-fledged detailed feeding of farm animals and birds, valuable producers, animals with metabolic disorders and their biological characteristics. The diets and feeding norms of which should correspond to their species and age characteristics, having a positive impact on their viability, productivity and feed conversion.	**4**	1	**Competences:** *Be competent*: in questions of application of various methodological approaches for the zootechnical and chemical analysis of forages, receptions and technology of production of forages and fodder means; abilities independently to organize and carry out scientific researches with use of modern methods of technology of production of forages, the analysis of soil and vegetative samples.

	Major subjects cycle University component / Optional Component				
	Major subjects cycle (MS)		**45**		
	University component (UC):		**20**		
1.2.1	Project management in the field of entrepreneurship	The essence and methods of project management in entrepreneurship. Pre-investment phase of the project. Organizational structure of project management in entrepreneurship. Planning project. Project cost management. Monitoring and control of the project. Managing project activities. Management of the project resources. Project risk management. Quality management of the project. Managing the project team. Managing project communication in the field of entrepreneurship.	7	2	**Competences:** - professional analysis of project goals, objectives, and conditions; - design of a change project; - evaluation of the project team's performance in implementing project management functions.
1.2.2	Methodology of scientific research in animal husbandry	Methodology and techniques of scientific and economic, biotechnological, biochemical, zootechnical and physiological experiments, experiments on animal feeding, selection and genetic nature and the study of the impact, the issues of their organization, accounting results, mathematical analysis of experimental data, the experiment in animal husbandry, mastering the mathematical base of experiment planning and processing of digital experimental material with the use of computer technology, literary design of research results, coverage of the basics of patenting.	5	1	**Competences:** be competent to generalize and critically evaluate the results obtained by domestic and foreign researchers, to identify promising areas, experiments of biometric processing of experimental data, writing of experimental methodology, registration of patent rights and rights of authors of inventions of other intellectual property objects.
1.2.3	Managing business solutions	Familiarization with the decision-making process, starting from the formalization of the initial problem, through the construction and solution of a mathematical model on a computer to the analysis of the solution and the formation of a management decision. Formation of skills for building and solving mathematical models and analyzing these solutions on the computer. Consideration of production, transport and financial models of tasks for choosing management solutions.	**4**	2	***Competences:*** in organizing and conducting scientific research using modern methods of mathematical modeling and analysis of technological systems.
1.2.4	Conflictology	Considers the main categories of conflictology, typology of conflicts, technologies of conflict	4	2	***Competences:*** - in diagnosing and preventing conflicts;

		management. Theory of personality behavior in conflict, technologies of effective communication and rational behavior in conflict. Forms an idea of the psychology of the negotiation process on conflict resolution, mediation as a technology of conflict regulation. Conflicts in society, conflicts in organizations, conflicts and stress.			- in the application of basic methods and technology, conflict prevention and resolution; - in using the principles of analysis and management of organizational conflicts; - in possession of various ways to resolve conflict situations on the basis of modern technology of personnel management.
2)	**Optional component (OC)**		**21***		
1.2.5	Management of genetic resources in animal husbandry	In this discipline, he studies the current state of the genetic resources of the main types of farm animals in the world and in Kazakhstan. The use of the world's genetic resources in breed formation and improved breeds of farm animals. Genetic and population bases of breeding; Ways of improving the gene pool of existing and creating new breeds of animals; use of the resources of the gene pool in the conditions of intensification of animal husbandry	5	1	**Competencies:** The master's student must be competent in the performance of production, organizational and managerial and experimental research activities at enterprises and organizations of the agro-industrial complex
1.2.6	Theoretical bases of selection	The main genetic patterns used in breeding. Genetics of qualitative signs in domestic animals. Genetics of populations. Correlations and regressions. Principles of the use of analysis of variance in biological research. Inheritability and repeatability of economically useful traits. The influence of the environment on the genotypic diversity of characters. Genotype and environment interaction. The use of correlations between traits in breeding. Complex selection at the same time on several grounds. Definition of parameters of the structure of the population.			**Competencies:** The master's student must be competent in mastering high-quality signs in domestic animals and the persistence and repeatability of economic and useful signs
Educational trajectory №1 «Technology of production of cattle breeding and horse breeding»					
1.2.7	Technology of	As a result of mastering this discipline, a master's student can know the technologies of cow's milk	6	2	**Competences:** In matters of cow's milk

	beef and milk production	production. Technological scheme of milk production. The equipment used for the production of milk. Purpose of workshops and organization of production groups, beef production technologies. meat breeds of cattle, herd reproduction, the content of cattle of meat breeds, the unified technology of growing and fattening young animals, the unified technology of keeping meat cattle.			production technology
1.2.8	Technology of production of horse breeding products	The course examines the biological and productive features of horses of productive use. The optimal structure of the herd of the meat direction. Breeding of young horses of the meat direction. Fattening and feeding of horses. Dairy productivity of horses. Otseka and selection of mares for seasonal and stationary kumys farms.	5	2	**Competences:** In matters of beef production technology
Educational trajectory №2 «Technology of production of poultry and sheep»					
1..2.9	Technology of production processing of sheep meat and wool	As a result of mastering this discipline, a master's student can know the indicators of sheep meat productivity that allow developing and implementing a rational technology for the production and processing of sheep meat products, increasing the production of lamb and lamb, technologies for the production and processing of sheep wool, methods of techniques and methods for obtaining products and processing, in particular high-quality wool.	6	2	***Competences*:** conduct zootechnical and breeding accounting and reporting using genetic-mathematical and statistical analysis using computers and personal computers;
1..2.10	Fundamentals of industrial production of poultry products	Undergraduates have the opportunity to study the national economic significance of industrial poultry farming. The state and prospects of development of industrial poultry farming. Biological features of farm birds. Breeding methods. Selection methods. Selection and selection. Breeding work with a bird. Egg and meat productivity.	5	2	**Competences:** to conduct breeding work with birds of different species in a specific technology; to manage the work of shops, teams, laboratories; to conduct zootechnical and breeding accounting and reporting using genetic, mathematical and statistical analysis using computers and personal computers; to make decisions independently
3)	Work placement internship		**4**	1,2	

2	Experimental research work by a Master's Degree student (ERW)		**18**	**1, 3**	
1)	Experimental research work by a Master's Degree student including an internship and a Master's Thesis.		18	1, 3	
3	**Additional types of training (ATT)**				
1)	Preparation and defence of Master's Thesis (PDMT)		12	4	
	Total:		**90**		

Practice bases

№	Name of companies, enterprises, organizations	Contacts, E-mail
1	Bayserke-Agro LLP	8777368936
2	Dinara-Ranch Agrofirm LLP	87773075520
3	Masakpay LLP	87784504088 trsultan230595@gmail.com
4	LLP "Elim-ai"	87772125024
5	KH "Bereke"	87774670870
6	SPK "Azamat 2"	87773243007 Akzhol_77@mail.ru
7	SPK "Almaty"	8701722 90 78
8	Halyk Trans-1 LLP	87012220982
9	CC "MM"	87010924948
10	KH "Intykpay"	87022514377
11	Birlik LLP	87077970007
12	JSC "Tribal Plant Zhenis"	Zhenis@ mail.ru 87076680063
13	Adil Ranch	87015336797
14	KH "Olzha"	87779469966
15	KH "Alisher"	87103351333
16	KH "Aidarbaev"	terlikbaeva_s@mail.ru 87051594050 87273867919, 87273913191 rh_saimasai@mail.ru
17	Sarybulak Company LLP	
18	Madi Farm	87029448899 akterek@mail.ru
19	Farm "Kumtekey"	87025293470
20	Farm "Batay-Shu"	87017457575, 87017208240
21	Farm "Bakey"	87233941442, 87017789911 bakei_agro@mail.ru
22	Zhaksylyk Farm	87273036526
23	Republican Center for Livestock Breeding "Asyl-Tulik", JSC	871651738150 ao.asyl-tulik@mail.ru
24	Livestock complex "Karoy"	+77474267401
25	SEC "Plemzavod " Almaty"	+7 727 394-30-10, info@dinaragroup.kz